

NOTES ON THE LIGNEOUS PLANTS DESCRIBED  
BY H. LEVEILLE FROM EASTERN ASIA<sup>1</sup>

ALFRED REHDER

POLYGONACEAE<sup>2</sup>

**Polygonum emodi** Meisn. var. **dependens** Diels. — Rehder in Jour. Arnold Arb. **10**: 184 (1929). — Samuelsson in Handel-Mazzetti, Symb. Sin. **7**: 176 (1929). — Steward in Contrib. Gray Herb. **88**: 29 (1930).

*Polygonum zigzag* Léveillé & Vaniot (1908). — Léveillé in Bull. Soc. Bot. France, **57**: 447 (1910).

*Bistorta zigzag* (Lévl.) Gross in Bull. Géog. Bot. **23**: 19 (1913).

**Polygonum cuspidatum** Siebold & Zuccarini in Abh. Akad. Wiss. Muench. **4**, pt. 3, p. 208 (Fl. Jap. Fam. Nat. **2**: 84) (1846). — Samuelsson in Handel-Mazzetti, Symb. Sin. **7**: 185 (1929). — Steward in Contrib. Gray Herb. **88**: 97 (1930).

*Polygonum yunnanense* Léveillé in Fedde, Rep. Spec. Nov. **6**: 112 (1908).

CHINA. Y u n n a n : Yunnan-sen, buissons, *F. Ducloux*, no. 539, Aug. 15, 1905 (holotype of *P. yunnanense*; photo. in A. A.).

*Polygonum yunnanense* seems to have been first identified with *P. cuspidatum* by H. Gross, according to a note on the type specimen dated 1912, where the name is transferred as a variety to *Pleuropterus cuspidatus*, but the varietal combination was apparently never published. Handel-Mazzetti (l.c.) cites *P. yunnanense* Lévl. (1908), non Cat. Pl. Yun-Nan, 208 (1916) as a synonym. Steward does not cite the name, but the type specimen Ducloux 539 under *P. cuspidatum*.

The correct name of the species is *P. cuspidatum* Sieb. & Zucc., for *P. cuspidatum* Willd. ex Sprengel (1825) was published as a synonym of *P. acuminatum* Kunth. Therefore, *P. Zuccarinii* Small (1895) and *P. Sieboldii* De Vriese ex Bailey (1901) proposed as new names for *P. cuspidatum* Sieb. & Zucc., not Willd., become synonyms of *P. cuspidatum* Sieb. & Zucc. As far as I can find, *P. Sieboldii* was never used as a valid name before being taken up by Bailey. In the citations given

<sup>1</sup>Continued from Vol. **17**: 53–82; for preceding parts see Vols. **10**: 108–132, 164–196; **12**: 275–281; **13**: 299–332; **14**: 223–252; **15**: 1–27, 89–117, 267–326; **16**: 311–340.

<sup>2</sup>See Jour. Arnold Arb. **10**: 184.

by Meisner in DC. Prodr. **14**: 136 under *P. Sieboldii* that name appears only as a synonym of *P. cuspidatum*.

**Polygonum urophyllum** Franchet & Bureau. — Rehder in Jour. Arnold Arb. **10**: 184 (1929). — Samuelsson in Handel-Mazzetti, Symb. Sin. **7**: 186 (1929). — Steward in Contrib. Gray Herb. **88**: 116 (1930).

*Fagopyrum Mairei* (Lévl.) H. Gross in Bull. Géog. Bot. **23**: 25 (1913).

*Polygonum Mairei* Lévl. is cited as a synonym of *P. urophyllum* by Samuelsson and by Steward.

**Polygonum Statice** Léveillé in Fedde, Rep. Spec. Nov. **7**: 338 (1909); in Bull. Soc. Bot. France, **57**: 446 (1910); Fl. Kouy-Tchéou, 321 (1915). — Samuelsson in Handel-Mazzetti, Symb. Sin. **7**: 186 (1929). — Steward in Contrib. Gray Herb. **88**: 115 (1930).

*Fagopyrum Statice* (Lévl.) H. Gross in Bull. Géog. Bot. **23**: 26 (1913).

*Polygonum multiflorum* Thunberg sensu Rehder in Jour. Arnold Arb. **10**: 185 (1929), quoad syn. *P. Statice* Lévl.; non Thunberg.

CHINA. K w e i c h o u : without precise locality, *J. Esquirol*, no. 164 (holotype; ex Léveillé).

I had placed *P. Statice* Lévl. on the authority of Dr. Samuelsson (in litt.) under *P. multiflorum* Thbg., but apparently on closer study, he found that it represents a distinct species related to *P. urophyllum* Franch. & Bur. I have not seen the type specimen.

#### RANUNCULACEAE<sup>1</sup>

**Clematis ranunculoides** Franch. var. **tomentosa** Finet & Gagnepain in Bull. Soc. Bot. France, **50**: 544 (1903); Contrib. Fl. As. Or. **1**: 29 (1905).

*Clematis urophylla* Franch. var. *heterophylla* Léveillé in Bull. Acad. Intern. Géog. Bot. 17, no. 210–211, p. ii (1907). — **Synon. nov.**

*Clematis urophylla* Franch. sensu Léveillé, Fl. Kouy-Tchéou, 334 (1915) pro parte, quoad specim. Esquirol 763; vix Franchet.

? *Clematis Mairei* Léveillé in Fedde, Rep. Spec. Nov. **7**: 337 (1909); Cat. Pl. Yun-Nan, 222 (1917).

CHINA. K w e i c h o u : without locality, *J. Esquirol*, no. 763 (holotype of *C. urophylla* var. *heterophylla*; photo. in A. A.). Y u n - n a n : Tong-chan, taillis et fourrets de la montagne, *E. E. Maire*, no. 381, June 19, 1905 (holotype of *C. Mairei*; ex Léveillé).

This variety looks quite distinct from typical *C. ranunculoides*, but seems to be connected by intermediate forms, such as Henry no. 9326

<sup>1</sup>See Jour. Arnold Arb. **10**: 185.

from Mengtze, 4600 ft. "red fls., erect plant," while another specimen under the same number with the note "low hills" agrees well with the var. *tomentosa*. The color of the flowers varies from white to rose-colored. The type of *C. Mairei* cannot be located in the Herb. Lévillé, but according to the description, it probably belongs here.

**Clematis trullifera** Finet & Gagnepain in Bull. Soc. Bot. France, **50**: 547 (1903); Contrib. Fl. As. Or. **1**: 32 (1905). — Lévillé, Cat. Pl. Yun-Nan, 222 (1917). — Handel-Mazzetti, Symb. Sin. **7**: 319 (1929).

*Clematis coriigera* Lévillé in Fedde, Rep. Spec. Nov. **12**: 281 (1913). — **Synon. nov.**

CHINA. Y u n n a n : haies, plaine de Tong-tchouan, alt. 2500 m., E. E. Maire, Sept. 1912, "Clematis grimpant à long rameaux, fleurs jaunes" (holotype of *C. coriigera*; photo. in A. A.).

Handel-Mazzetti cites (l.c.) a Maire specimen from the same locality, spelled by him "Dungtschwan" which is probably an isotype, but he does not mention Lévillé's name. *Clematis coriigera* is not enumerated by Lévillé in his Cat. Pl. Yun-Nan, neither as a valid species nor as a synonym of *C. trullifera*.

**Clematis grata** Wall. var. **argentalucida** (Lévl. & Vant.), comb. nov.

*Clematis Vitalba* L. var. *argentalucida* Lévillé & Vaniot in Bull. Acad. Intern. Géog. Bot. **11**: 167 (1902).

*Clematis Vitalba*  $\gamma$  *Cl. grata* (Wall.) Finet & Gagnepain in Bull. Soc. Bot. France, **50**: 532 (1903); Contrib. Fl. As. Or. **1**: 17 (1905), p.p., tandem quoad specim. cit. "Bodinier no. 1621."

*Clematis grata* var. *grandidentata* Rehder & Wilson in Sargent, Pl. Wilson. **1**: 338 (1913). — **Synon. nov.**

CHINA. K w e i c h o u : environs de Kouy-yang, commun dans les haies de la plaine, E. Bodinier, no. 1621, June 10, 1897 "fleurs blanches"; Collège, E. Bodinier, July 3, 1900 (syntypes of *C. Vitalba* var. *argentalucida*; photos. in A. A.).

The fact that Lévillé and Vaniot's varietal epithet antedates *C. grata* var. *grandidentata* makes a new combination necessary.

**Clematis Gouriana** Roxburgh ex De Candolle, Syst. **1**: 138 (1818). — Rehder in Jour. Arnold Arb. **10**: 188 (1929).

*Clematis substipulata* Kuntze in Verh. Bot. Ver. Brandenb. **26**: 100 (Monog. Clem.) (1885).

*Clematis Vitalba* L. var. *micrantha* Lévillé & Vaniot in Bull. Acad. Intern. Géog. Bot. **11**: 167 (1902). — Lévillé, Cat. Pl. Yun-Nan, 222 (1917).

*Clematis Vitalba* L. var.  $\beta$  *Cl. Gouriana* f. *substipulata* (Ktze.) Finet

& Gagnepain in Bull. Soc. Bot. France, 50: 532 (1903); Contrib. Fl. As. Or. 1: 17 (1905).

*Clematis Martini* Léveillé in Bull. Acad. Intern. Géog. Bot. 27, no. 210-211, p. ii (1907); Fl. Kouy-Tchéou, 333 (1915).

CHINA. K w e i c h o u : environs de Gan-pin, haies de la montagne, *L. Martin* in herb. *Bodinier*, no. 1884, Sept. 4, 1897, "fleurs blanches" (holotype of *C. Vitalba* var. *micrantha*; photo. in A. A.); Gan-chouen, *J. Cavalerie*, no. 3831, in 1910, "fleure blanche" (cited in Fl. Kouy-Tchéou under *C. Vitalba* var. *Gouriana*; photo. and merotype in A. A.); route de Pien-yang à Lo-fou, *J. Cavalerie*, no. 2662, Nov. 1905 (syntype of *C. Martini*; photo. in A. A.); bord du fleuve Hoa-kiang, *J. Esquirol*, no. 576, Aug. 5, 1905 (syntype of *C. Martini*; merotype in A. A.); Lo-fou, *J. Cavalerie*, no. 3583, March 1909 (sub *C. Martini* in Fl. Kouy-Tchéou; duplicate in A. A.).

It does not seem advisable to maintain *f. substipulata* as a distinct form or variety, since the stipules or bracts constitute a rather unstable character and may be present or absent on different inflorescences of the same specimen. Kuntze used the character of perulate and eperulate inflorescences for major divisions of the genus which led him to separate those forms of *C. Gouriana* with scales or leafy bracts (stipules) at the base of the inflorescence as a distinct species. The species was reduced by Finet and Gagnepain to a form of their *C. Vitalba*  $\beta$  *Cl. Gouriana*, and they cite under it *Bodinier's* no. 1884 which is the holotype of *C. Vitalba* var. *micrantha* Lévl. & Vant., but the specimen in the Léveillé herbarium which is rather fragmentary, shows no stipules. Leafy bracts, however, are present in *Cavalerie* no. 3583, referred to *C. Martini* by Léveillé (Fl. Kouy-Tchéou, 333).

Specimens of *C. Gouriana* with leafy bracts or scales at the base of the inflorescence are found occasionally, as *Henry* no. 4329 and *Wilson* no. 2397 (*Veitch Exp.*) from Hupeh, and *Hers*, nos. 848 and 1351 from Honan. Also in *C. Gouriana* var. *Finetii* Rehd. & Wils., some specimens exhibit this character, as *Wilson* no. 672 (type of var. *Finetii*) from Hupeh, and *J. F. Rock* no. 14733 from Kansu. From the specimens cited, it appears that this variation occurs in the northern part of the range of the species.

*Cavalerie* no. 2662 is a syntype of *C. Martini*, but there is another specimen under the same number in Herb. Léveillé, which is *C. rubifolia* Wright and was correctly referred by Léveillé to that species (Fl. Kouy-Tchéou, 333).

***Clematis parviloba*** Gardn. & Champ. var. ***ganpiniana*** (Lévl. & Vant.), comb. nov.

*Clematis Vitalba* var. *Ganpiniana* Léveillé & Vaniot in Bull. Acad. Intern. Géog. Bot. **11**: 167 (1902).

*Clematis parviloba* Gardn. & Champ. var. *glabrescens* Finet & Gagnepain in Bull. Soc. Bot. France, **50**: 534 (1903); Contrib. Fl. As. Or. **1**: 19 (1905). — Léveillé, Fl. Kouy-Tchéou, 333 (1915); Cat. Pl. Yun-Nan, 222 (1917).

CHINA. K w e i c h o u : environs de Gan-pin, *L. Martin* in herb. Bodinier, nos. 1788, 1882 and 1883, August 10, August 4, and Sept. 4, 1897 "fleurs blanches" (syntypes of *C. Vitalba* var. *Ganpiniana*; photo. of no. 1883 in A. A.).

*Clematis Vitalba* var. *Ganpiniana* was first cited by Finet & Gagnepain (l.c.) as a synonym of their new variety *C. parviloba* var. *glabrescens*, without employing the earlier varietal epithet.

#### LARDIZABALACEAE<sup>1</sup>

**Stauntonia Cavalerieana** Gagnepain in Bull. Soc. Bot. France, **55**: 47 (1908). — Léveillé, Fl. Kouy-Tchéou, 50 (1914).

*Epimedium Cavaleriei* Léveillé, Cat. Pl. Yun-Nan, 18, in nota (1915); China Rev. Ann. **1916**: 18 (MS.).

CHINA. K w e i c h o u : Pin-fa, près cascade, *J. Cavalerie*, no. 1266, March 1903 (holotype of *Stauntonia Cavalerieana* in herb. Paris, ex Gagnepain; and holotype of *Epimedium Cavaleriei*; photo. in A. A.).

*Stauntonia Cavalerieana* and *Epimedium Cavaleriei* are both based on Cavalerie 1266, cited by Léveillé in his Fl. Kouy-Tchéou under the first name and in his Cat. Pl. Yun-Nan under the second name, but neither name appears on the type specimen in herb. Léveillé in Léveillé's handwriting. A fruiting specimen collected in Kweichou by Steward, Chiao and Cheo (no. 856) may belong here.

**Stauntonia obovata** Hemsley in Hooker's Ic. Pl. **29**: t. 2847 (1907).

*Akebia Cavaleriei* Léveillé, Fl. Kouy-Tchéou, 47 (1914). — **Synon. nov.**

*Holboellia* spec. Rehder in Jour. Arnold Arb. **10**: 189 (1929).

CHINA. K w e i c h o u : Pin-fa, contreforts de Yuin-ou-chan, *J. Cavalerie*, no. 955, March 28, 1903, "fleurs blanches" (holotype of *Akebia Cavaleriei*; photo. in A. A.).

When I referred in 1929 (l.c.) *Akebia Cavaleriei* Lévl. to *Holboellia*, I had only a photograph of the type with fragments consisting of detached leaflets before me, but now the loan of the type specimen enabled me to examine a flower which shows that it belongs to *Stauntonia*. *Stauntonia obovata* has so far been recorded only from Hongkong.

<sup>1</sup>See Vol. **10**: 189.

**Holboellia coriacea** Diels. — Rehder in Jour. Arnold Arb. **10**: 189 (1929).

*Artabotrys Esquirolii* Léveillé, Fl. Kouy-Tchéou, 29 (1914), p.p., quoad specim. Esquirol, no. 2184.

CHINA. K w e i c h o u : Gny-hien, bord du ruisseau, 700 m., *J. Esquirol*, no. 2184, June 1910 (syntype of *Artabotrys Esquirolii*; merotype in A. A.).

In my note under this species (l.c.) I stated that the description does not seem to fit Esquirol's no. 2184, and that I had not seen the other syntype. I have now before me Esquirol's no. 2033, the other syntype, which agrees better with the description; this is not an *Artabotrys*, however, but belongs to *Desmos cochinchinensis* Lour. (see p. 324).

**Holboellia latifolia** Wallich, Tent. Fl. Nepal. 24, t. 16 (1824).

*Hoya Cavaleriei* Léveillé, Fl. Kouy-Tchéou, 42 (1914). **Synon. nov.**

CHINA. K w e i c h o u : Kan-pey, *J. Esquirol*, no. 322, no date, "fleurs rouges ou roses" (holotype of *Hoya Cavaleriei*; photo. in A. A.).

Esquirol's no. 322 which has 3-foliolate leaves is apparently referable to typical *H. latifolia* which has 3–5 leaflets.

#### BERBERIDACEAE<sup>1</sup>

**Berberis Cavaleriei** Léveillé in Fedde, Rep. Spec. Nov. **9**: 454 (1911). — Schneider in Oester. Bot. Zeitschr. **67**: 140 (1918). — Byhouwer in Jour. Arnold Arb. **9**: 133 (1928).

*Berberis Griffithiana* Schneider sensu Schneider in Sargent, Pl. Wilson. **1**: 364 (1913), pro parte, quoad specim. citata. — Léveillé, Fl. Kouy-Tchéou, 48 (1914). — Rehder in Jour. Arnold Arb. **10**: 189 (1929). — Handel-Mazzetti, Symb. Sin. **7**: 326 (1929). — Non Schneider (1905).

CHINA. K w e i c h o u : entre Kouan-chan et Kouy-yang, *J. Cavalerie*, no. 3209, Apr. 1907, "fleurs jaunes" (holotype of *B. Cavaleriei*; photo. in A. A.).

Schneider in 1913 (l.c.) referred to his *B. Griffithiana* based in 1905 on Griffith 125 from Bhutan, several Chinese specimens, and he also identified *B. Cavaleriei*, of which Léveillé had sent fragments to the Arnold Arboretum in 1916, as *B. Griffithiana*; this induced Léveillé to cite his *B. Cavaleriei* in his Fl. Kouy-Tchéou as a synonym of *B. Griffithiana* and transfer the name to another species which turned out to be a *Gymnosporia* (see Jour. Arnold Arb. **14**: 250). In 1917, however, Schneider (in Sargent, Pl. Wilson. **3**: 438) stated that *B. Griffithiana* is entirely absent from China, and therefore, took up again in 1918 (l.c.) the name *B. Cavaleriei* Lévl. of 1911.

<sup>1</sup>See Vol. **10**: 189.

**Berberis Julianae** Schneider in Sargent, Pl. Wilson. 1: 360 (1913); in Oester. Bot. Zeitschr. 67: 138 (1918). — Lévillé, China, Rev. Ann. 1916, p. 18 (MS).

*Berberis stenophylla* "Hance" sensu Lévillé, Fl. Kouy-Tchéou, 48 (1914); non Hance, nec Lindl.

*Berberis Griffithiana* Schneider sensu Schneider in Sargent, Pl. Wilson. 1: 364 (1913), p.p., quoad specim. Bodinier 2143 [= 2145]; non Schneider (1905).

CHINA. K w e i c h o u : environs de Kouy-yang, commun partout dans la mont., E. Bodinier, no. 2145, March 30, 1898 "fleur jaune foncé" (photo. in A. A.).

*Berberis stenophylla* Lévl. was referred by Lévillé in 1916 (l.c.) and by Schneider in 1918 (l.c.) to *B. Julianae*, but it differs from typical *B. Julianae* in the smaller leaves with only 3–7 pairs of teeth.

**Berberis bicolor** Lévillé in Fedde, Rep. Spec. Nov. 9: 454 (1911); Fl. Kouy-Tchéou, 48 (1914). — Schneider in Oester. Bot. Zeitschr. 67: 144 (1918).

*Berberis acuminata* "Franchet" sensu Schneider in Bull. Herb. Boiss. ser. 2, 8: 197 (1908), p.p., quoad specim. Henry 13267; non Franchet.

*Berberis subacuminata* Schneider in Sargent, Pl. Wilson. 1: 363 (1913). — Lévillé, Cat. Pl. Yun-Nan, 18 (1915).

CHINA. K w e i c h o u : Ma-jo, J. Cavalerie, no. 3043, May, 1908, "fleurs extérieurement rouges, intérieurement blanches" (holotype of *B. bicolor*; merotype in A. A.).

**Mahonia elegans** (Lévl.), comb. nov.

*Berberis* (*Mahonia*) *elegans* Lévillé in Bull. Soc. Bot. France, 51: 289 (1904).

*Mahonia Bodinieri* Gagnepain in Bull. Soc. Bot. France, 55: 86 (1908). — Schneider in Sargent, Pl. Wilson. 1: 384 (1913). — Lévillé, Fl. Kouy-Tchéou 49 (1914); Cat. Pl. Yun-Nan, 19 (1915).

*Mahonia Leveilleana* Schneider in Sargent, Pl. Wilson. 1: 385 (1913). — Lévillé, Fl. Kouy-Tchéou, 49 (1914).

*Mahonia elegans* Lévillé, Fl. Kouy-Tchéou, 49 (1914), pro synonym. *M. Leveilleanae*.

CHINA. K w e i c h o u : environs de Gan-pin, L. Martin in herb. Bodinier, no. 2465, July 27, 1897 (syntype of *Berberis elegans*; photo. in A. A.); environs de Kouy-yang, mont du Collège, E. Bodinier, no. 2465 [not 2469] July 7, 1898 (syntype of *B. elegans* in herb. Lévl. and holotype of *M. Leveilleana* in herb. Mus. Vindob.; photo. in A. A.); environs de Gan-pin et Kouy-yang, L. Martin in herb. Bodinier, no. 2465, July 19, 1898 holotype of *M. Bodinieri* in herb. Paris; fragments in A. A.); environs de Tou-chan, Lao-chou-tse, J. Cavalerie in herb. Bodinier, July 19, 1897 (syntype of *B. elegans*; photo. in A. A.).

In his Flore du Kouy-Tchéou, Lévillé cites Bodinier no. 2465 under *Mahonia Bodinieri*, and Cavalerie's specimen from Tou-chan under *M. Leveilleana*. Later when at the Arnold Arboretum in 1916-19 Schneider himself referred his *M. Leveilleana* to *M. Bodinieri*. He was apparently not aware that *Berberis elegans* had been validly published and considered it a manuscript name, which he did not care to use to avoid any possible confusion with his *Berberis elegans* published in 1905; Lévillé's name published a year earlier, however, invalidates *B. elegans* Schneid. which has to receive a new name.<sup>1</sup> The specimen from Tou-chan differs slightly from the other two syntypes but is evidently conspecific.

Takeda in 1917 in his paper on *Mahonia* (in Notes Bot. Gard. Edinb. 6: 238) lists *M. Bodinieri*, *M. Leveilleana* and *M. ganpinensis* (Lévl.) Fedde among the species he has not seen.

#### MENISPERMACEAE

**Cocculus laurifolius** DeCandolle, Prodr. 1: 100 (1824).

*Cinnamomum Esquirolii* Lévillé Fl. Kouy-Tchéou, 218 (1915). —

**Synon. nov.**

CHINA. K w e i c h o u : bois de Ta-ram, rivière de Lo-hou, *J. Esquirol*, no. 3586, March 1912, "fleurs jaunes" (syntype of *Cinnamomum Esquirolii*; merotype in A. A.); chemin de Pell-tiang, *J. Esquirol*, 3757, June 1912 (syntype of *C. Esquirolii*; ex Lévillé).

The locality cited above marks the northwestern limit of the range of this widely distributed species. There are also specimens from Kwangtung (C. L. Tso, Sun Yatsen herb. 20860) and from Fukien (H. H. Chung 7774) in this herbarium.

#### MAGNOLIACEAE<sup>2</sup>

**Illicium Griffithii** Hooker f. & Thomson, Fl. Ind. 1: 74 (1855). — Hooker, Fl. Brit. Ind. 1: 40 (1875).

*Glochidion Cavaleriei* Lévillé in Fedde, Rep. Spec. Nov. 12: 183 (1913); Fl. Kouy-Tchéou, 163 (1914).

*Illicium Cavaleriei* (Lévl.) Lévillé in Monde Pl. ser. 2, 18: 31 (1916); Rev. Ann. Chine, 1916: 20, 23. — **Synon. nov.**

CHINA. K w e i c h o u : Pin-fa, ruisseau de La-tong, *J. Cavalerie*, no. 578, Oct. 1, 1902 (holotype of *Glochidion Cavaleriei*; photo. in A. A.).

<sup>1</sup> **Berberis Schneideri**, nom. nov.

*Berberis sinensis* var. *elegans* Franchet, Pl. Delavay. 35 (1889).

*Berberis elegans* (Franch.) Schneider in Bull. Herb. Boiss., ser. 2, 5: 463 (1905); non Lévillé (1904).

CHINA. Y u n n a n : near Mo-so-yn, *Delavay*, June 18, 1887, and nos. 827 and 1087.

<sup>2</sup>See Vol. 10: 190.



The specimen agrees well in the shape and size of the leaves and in the comparatively short beak of the mature carpels with *I. Griffithii*; the seed is 4.5 mm. long.

ANNONACEAE<sup>1</sup>

**Desmos cochinchinensis** Loureiro, Fl. Cochinch. 352 (1790). — Merrill in Trans. Am. Phil. Soc. n. ser. 14, pt. 2: 160 (1935).

*Artabotrys Esquirolii* Lévillé, Fl. Kouy-Tchéou, 29 (1914), p.p. excl. specim. 2184. — **Synon. nov.**

CHINA. K w e i c h o u : ruisseau Sen-tse-pa, alt. 1400 m., *Esquirol* no. 2033, April 17, 1910 (syntype of *Artabotrys Esquirolii*; photo. in A. A.).

When I referred in 1929 (in Jour. Arnold Arb. 10: 189) *Artabotrys Esquirolii* to *Holboellia coriacea* Diels, to which the other syntype, *Esquirol*, no. 2184 belongs, I had not seen *Esquirol* no. 2033 which I have now before me; it agrees with the description, except that "folia . . . ovata" and "flores . . . masculi atrorubri" seem to be based on *Esquirol* no. 2184.

LAURACEAE<sup>2</sup>

Determined by CAROLINE K. ALLEN

**Cinnamonum Bodinieri** Lévillé in Fedde, Rep. Spec. Nov. 10: 369 (1912); Fl. Kouy-Tchéou, 218 (1914); Cat. Ill. Pl. Seu-Tchouen, 96, t. 45 (1918)MS; Rev. Ann. Chine, 1916: 21, MS.

*Cinnamonum hupehanum* Gamble in Sargent, Pl. Wilson. 2: 69 (1914). — Liou, Laurac. Chine & Indoch. 26 (1932).

CHINA. K w e i c h o u : environs de Kouy-yang, bois de la pagode de Lau-yo-chan, *E. Bodinier*, no. 2622, June 15, 1899 "arbre enorme in hauteur et grosseur" (holotype of *C. Bodinieri*; photo. in A. A.).

In his Flore du Kouy-Tchéou, and later in China Review, Lévillé mentions *Cinnamonum hupehanum* as a synonym of *C. Bodinieri*. Liou who prepared his Lauraceae of China and Indochina at the Paris Herbarium referred without citing Lévillé's name Bodinier no. 2622 in the Paris herbarium to *C. hupehanum*. This number is the type of *C. Bodinieri*.

**Cinnamonum Camphora** Nees & Ebermayer, Handb. Med. Pharm. Bot. 2: 430 (1831).

*Cinnamonum Taquetii* Lévillé in Fedde, Rep. Spec. Nov. 10: 370 (1912). — **Synon. nov.**

KOREA. Q u e l p a e r t : in sylvis Tolsouni rara, *E. Taquet*, no.

<sup>1</sup>See Vol. 10: 191.

<sup>2</sup>See Vol. 10: 192.

1344, Oct. 1908, (syntype of *C. Taquetii*; isotype in A. A.); in sylvis Taitpjeng rara, *E. Taquet*, no. 3159, July 1909 (syntype of *C. Taquetii*; isotype in A. A.).

**Cinnamonum Parthenoxylon** Meissner in De Candolle, Prodr. 15<sup>1</sup>: 26 (1864). — Liou, Laurac. Chine & Indoch. 28 (1932).

*Cinnamonum Neesianum* Meissner l.c. — Lévillé Rev. Ann. Chine, 1916: 21. MS.

*Cinnamonum Cavaleriei* Lévillé in Fedde, Rep. Spec. Nov. 10: 370 (1912); Fl. Kouy-Tchéou, 218 (1914).

CHINA. K w e i c h o u : Pin-fa, *J. Cavalerie*, no. 1084, June 23, 1903 (holotype of *C. Cavaleriei*, photo. in A. A.); Ly-Po, *J. Cavalerie*, no. 2630, in 1899 (cited as *C. Neesianum* in Rev. Ann. Chine; photo. in A. A.).

The *Cinnamonum Parthenoxylon* of Meissner was distinguished by him from *C. Neesianum* by its odor, more conspicuous veins and veinlets and more divergent ribs. *Cinnamonum Neesianum* has long since been reduced to synonymy under *C. Parthenoxylon*, the conception of which has expanded to include these varying leaf characters. This is perhaps the best way to dispose of these species for there is not much difference, from the descriptions at least. The Cavalerie numbers cited above, agree with the description for *C. Neesianum*, but must be included under *C. Parthenoxylon*.

**Cinnamonum pedunculatum** Nees var. **angustifolium** Hemsley in Jour., Linn. Soc. Bot. 26: 373 (1891). — Lévillé, Cat. Ill. Pl. Seu-Tchouen, 97 (1918) MS. — Liou, Laurac. Chine & Indoch. 37 (1932).

*Cinnamonum linearifolium* Lecomte in Nouv. Arch. Mus. Paris, sér. 5, 5: 79 (1913). — Liou, Laurac. Chine & Indoch. 32 (1932). —

**Synon. nov.**

CHINA. K w e i c h o u : sud de Lo-fou, *J. Cavalerie*, no. 3082, April 1907 (holotype of *C. linearifolium*; isotype in herb. N. Y.; photo. in A. A.). S z e c h u a n : *E. Faber*, no. 575 (syntype of *C. pedunculatum* var. *angustifolium*; isotype in herb. N. Y.; (photo. in A. A.).

Lecomte when describing *Cinnamonum linearifolium* draws attention to the fact that it resembles *C. pedunculatum* var. *angustifolium*, but he points out the differences between the two, namely, the size and venation of the leaves, and the cross section of the petiole.

An examination of sheets of the two types discloses the differences mentioned by Lecomte, but these would seem to be differences of degree only, and not specific.

I have before me a photograph of *Laurus Heyneana* Wallich, mentioned in Wallich's Catalogue no. 2576, the locality unknown. This has

been transferred by Nees<sup>1</sup> to *Cinnamomum Heyneana*, and by Meissner<sup>2</sup> to *Cinnamomum iners* var. *subvenosum*. As far as can be judged by the photograph, the specimen is very similar to *Cinnamomum pedunculatum* var. *angustifolium*. An examination of the actual specimen would be necessary, however, before making the change in synonymy.

**Alseodaphne camphorata** (Lévl.) Allen, comb. nov.

*Machilus camphoratus* Léveillé in Fedde, Rep. Spec. Nov. 9: 460 (1911).

*Alseodaphne caudata* Lecomte in Nouv. Arch. Mus. Paris, sér. 5, 5: 97 (1913). — Liou, Laurac. Chine & Indoch. 43 (1932). — **Synon. nov.**

CHINA. K w e i c h o u : Pin-fa, *J. Cavalerie*, no. 1002, May 1903, "petit arbre, odeur de camphre" (holotype of *Machilus camphoratus* and of *Alseodaphne caudata*; photo. in A. A.).

Léveillé in 1911 described *Machilus camphoratus* based on Cavalerie no. 1002. This apparently passed unnoticed, for three years later, Lecomte from the same number described *Alseodaphne caudata*. Examination of Léveillé's specimen shows it to be identical with *Alseodaphne caudata* Lecomte.

**Machilus Cavaleriei** Léveillé. — Rehder in Jour. Arnold Arb. 10: 192 (1929). — Liou, Laurac. Chine & Indoch. 60 (1932).

This species is very different from any known *Machilus*. The leaves are dull, very prominently reticulate, and obtuse to emarginate at the tip. The inflorescence is large and open. At first glance it resembles *Beilschmiedia*, but the floral structure is typical *Machilus*. The perianth lobes are very rough gray pubescent on the outside.

**Machilus longipedicellata** Lecomte in Nouv. Arch. Mus. Paris, sér. 5, 5: 101 (1913). — Handel-Mazzetti, Symb. Sin. 7: 253 (1931). — Liou, Laurac. Chine & Indoch. 51 (1932).

To this species belongs *J. Cavalerie*, no. 3007, Kweichou: Majo, April 20, 1908, "fl. vert-jaune," cited by Léveillé in his *Fl. Kouy-Tchéou*, 221 (1914) under *M. oreophila* Hance. I have before me a photograph of the type of *M. oreophila* Hance. Cavalerie's specimen differs from this radically in leaf-shape, and somewhat in the inflorescence. The nearest species seems to be *M. longipedicellata* or one very close to it.

**Machilus Rehderi** Allen, spec. nov.

Arbor parva; ramuli glabri, purpureo-nigri, rugosi. Folia in superiore

<sup>1</sup>Nees in Wallich, Pl. As. Rar. 2: 76 (1831).

<sup>2</sup>Meissner in De Candolle, Prodr. 15<sup>1</sup>: 20 (1864).

parte ramulorum approximata, coriacea, lanceolata, longe acuminata acumine obtuso, basin versus attenuata, 9–12 cm. longa et 1.5–3 cm. lata, glabra, nitida, supra flavo-viridia, subtus pallidiora, costa leviter impressa, nervis utrinsecus 7–8 inconspicuis angulo 45° divergentibus, minute reticulata; petioli glabri, 1.5–2 cm. longi. Inflorescentiae paniculatae vel racemosae, 10–11 cm. longae, glabrae, in basi innovationum bracteis deciduis pallide rubro-fuscis tomentosiss suffultae; pedunculi 3–5 cm. longi, graciles; pedicelli 7–13 mm. longi, glabri; flores 8–9 mm. longa; perianthium fere ad basin divisum, lobis 6, 6–7 mm. longis extus glabris demum reflexis, exterioribus lanceolatis obtusis intus glabris 2 mm. latis, interioribus intus dense pubescentibus, quam exteriora paulo brevioribus; stamina 9, circa 5 mm. longa, aequalia vel subaequalia, filamentis glabris 3.5 mm. longis, antheris introrsis oblongis 1.5 mm. longis, ea ordinis III. leviter ad basin pilosa et glandulis 2 reniformibus stipitatis 1.5–2 mm. longis instructis; staminodia ordinis IV. triangularia, auriculata, acuta, stipitata; ovarium subglobosum; stylus filamentis paulo brevior. Drupa globosa, minute apiculata, 7–8 mm. diam., glabra, basi perianthio reflexo instructa, pedicello incrassato.

CHINA. K w e i c h o u : bois, Pin-fa, *J. Cavalerie*, no. 1741, April 5, 1904 “fl. voyantes à odeur forte, petit arbre” (type, photo. in A. A.); Pin-fa, *J. Cavalerie*, no. 2345, June 8, 1905, “petit arbre.”

These two specimens are in the Léveillé herbarium as *Machilus Thunbergii* S. & Z. They are distinguished from this species by the leaf shape, inflorescence and the more evident thickening of the inflorescence in fruit. This species I am naming for Prof. A. Rehder who is completing a revision of the specimens in the Léveillé Herbarium.

***Machilus Thunbergii*** Siebold & Zuccarini in *Abh. Akad. Münch.* 4: 202 (1846).

*Litsea coreana* Léveillé in *Fedde, Rep. Spec. Nov.* 10: 370 (1912). —

**Synon. nov.**

KOREA. Q u e l p a e r t : in pago Sykeni prope mare *E. Taquet*, no. 1356, July 1908 (syntype of *Litsea coreana*; isotype in A. A.); in silvis Taitpjeng, Yangkeuni et Sampangsan, Jul.–Oct. 1908–1910, *E. Taquet* nos. 1355, 3171, 4401 (syntypes of *L. coreana*; fragments in A. A.).

***Nothaphoebe omeiensis*** Chun in *Contrib. Biol. Lab. Sci. Soc. China*, 1<sup>5</sup>: 33 (1925); *Jour. Arnold Arb.* 8: 21 (1927). — Rehder in *Jour. Arnold Arb.* 10: 192 (1929). — Liou, *Laurac. Chine & Indoch.* 79 (1932).

Liou mentions as synonyms the same Léveillé species as cited by Rehder (l.c.).

**Phoebe neurantha** (Hemsl.) Gamble in Sargent, Pl. Wilson. **2**: 72 (1914). — Liou, Laurac. Chine & Indoch. 69 (1932).

*Machilus neurantha* Hemsley in Jour. Linn. Soc. Bot. **26**: 376 (1891).

In the Catalogue illustré et alphabétique des plantes du Seu-Tchouen, Lévillé mentions *M. neurantha* var. *ferruginea*, without citing a collector or number. The sheet, so far, has not been found in the Lévillé herbarium. It has probably been placed in another species or even in another genus.

**Sassafras tzumu** Hemsley in Kew Bull. Misc. Inform. **1907**: 55. — Rehder in Jour. Arnold Arb. **1**: 244 (1920).

*Pseudosassafras tzumu* Lecomte in Not. Syst. **2**: 269 (1912). — Liou, Laurac. Chine & Indoch. 81 (1932). — Merrill, Comment. Loureiro Fl. Cochinch. 165 (1935).

*Lindera camphorata* Lévillé in Fedde, Rep. Spec. Nov. **9**: 459 (1911); Fl. Kouy-Tchéou, 219 (1914). — **Synon. nov.**

CHINA. K w e i c h o u : Touan-po, district de Oui-ne, *J. Cavalerie* no. 2484, Aug. 13, 1905 "arbre rare" (holotype of *Lindera camphorata*; photo. in A. A.).

**Neolitsea undulatifolia** (Lévl.) Allen, comb. nov.

*Litsea undulatifolia* Lévillé, Fl. Kouy-Tchéou, 220 (1914).

*Neolitsea* spec. Rehder in Jour. Arnold Arb. **10**: 193 (1929).

Frutex glaber; rami et ramuli teretes, laeves, tenuiter striati, ramuli ultimi olivacei, rami vetustiores partim decorticantes cortice interiore rubro-brunneo. Folia in apice ramulorum congesta, subverticillata, lanceolata, 5–7 cm. longa et 1–2 cm. lata, margine undulata, apice longe acuta, basi cuneata, supra opace coeruleo-viridia, subtus pallide brunnea, costa utrinque prominente elevata, penninervia, nervis inconspicuis utrinsecus 12–15 angulo 60° divergentibus; petioli breves ad 2.5 cm. longi. Inflorescentiae umbellatae, sessiles, 6–9 mm. longae, infra foliorum verticillum ultimum spiraliter dispositae, pluribus bracteis glabris inclusae; flores numerosi, pedunculis pubescentibus circa 4 mm. longis; perianthium fere ad basin divisum, lobis 4 glabris, 2 interioribus anguste ovatis plus minusve carinatis 4 mm. longis, exterioribus late ovatis majoribus; stamina 6, 2–4 filamentis glabris satis robustis circa 2 mm. longis, basi glandulis sessilibus reniformibus instructis, stamina reliqua filamentis eglandulosis 2.5 mm. longis gracillimis, antheris oblongis introrsis 1.5 mm. longis; ovarium ellipsoideum, glabrum.

CHINA. K w e i c h o u : Tou-chan, *J. Cavalerie*, without number, March 14, 1900 "arbuste, fl. blanches, odoriferantes," (holotype of *Litsea undulatifolia*, dupl. in A. A.).

This species resembles superficially *Neolitsea confertifolia* (Hemsl.)

Merr., but can be distinguished vegetatively from it by the narrower leaves not glaucescent beneath and undulate at the margin.

As Lévillé's description is inadequate, a complete description has been given above. Lévillé states that both the leaves and the inflorescence are fasciculate.

**Litsea Dunniana** Lévillé in Fedde, Rep. Spec. Nov. 9: 460 (1911); Fl. Kouy-Tchéou, 220 (1914).

*Neolitsea* spec. Rehder in Jour. Arnold Arb. 10: 193 (1929).

CHINA. K w e i c h o u : forêts de Gam-go, *J. Esquirol*, no. 565, Dec. 15, 1905, "arbre" (type of *L. Dunniana*, photo. in A. A.).

This species has been left in *Litsea* because of the number of stamens and the type of inflorescence.

The type of *Litsea Dunniana* superficially resembles *Litsea Garrettii* Gamble var. *longistaminata* Liou.<sup>1</sup> The pubescence on the undersurface of the leaf of Esquirol no. 565, however, consists of long, slightly villous hairs, the inflorescence is sessile, the staminal filaments are glabrous, and the style is covered with whitish hairs. In the two syntypes of *Litsea Garrettii* var. *longistaminata*, the isotypes of which I have before me, the pubescence on the undersurface of the leaf consists of shorter, less conspicuous hairs; the inflorescence consists of umbels in a short raceme; the staminal filaments are covered with brownish hairs, and the style is glabrous.

**Litsea Esquirolii** (Lévl. in herb.) Allen, spec. nov.

*Eurya Esquirolii* Lévillé, Fl. Kouy-Tchéou 415 (1915), nomen nudum.

*Neolitsea* spec., Rehder in Jour. Arnold Arb. 10: 193 (1929).

Arbor?; rami brunnei, pubescentes, ultimi ramuli dense pubescentes, vetustiores glabri. Folia in parte superiore ramulorum, lanceolato-elliptica, 6–10 cm. longa et 1.75–2.5 cm. lata, apice acuminata, ad basin sensim attenuata, supra nitida, subtus pallidiora, glaucescentia, minute pubescentia, penninervia, costa subtus pilosa manifeste elevata quam parenchyma intensius colorata, nervis utrinsecus 5–8 utrinque leviter elevatis, supra rete venularum satis distincto; petioli dense sed tenuiter pubescentes, 8–13 mm. longi. Umbellae 1–3 in axillis foliorum et saepe infra in axillis bractearum caducarum, pedunculis 2 mm. longis pubescentibus; flores plures, sessiles, circa 5 mm. longi, bracteis 4 inclusi, exterioribus brunneis leviter pubescentibus, interioribus majoribus pallide brunneis dense pubescentibus; perianthium ad 2/3 divisum, tubo inferiore parte extus densissime longe piloso, intus dense breviter pubescente, lobis 6 oblongo-lanceolatis acutis extus sparsius pubescenti-

<sup>1</sup>Liou, Laurac. Chine & Indoch. 196 (1932).

bus intus glabris; stamina 7-9, antheris extrorsis, 2-3 interiora filamentis 3 mm. longis sparse pilosis ad basin glandulis 2 sessilibus cordatis instructis, stamina reliqua filamentis eglandulosis paulo longioribus gracilioribus; pistillum circa 2 mm. longum ovario ovoideo, stylo curvato, stigmatate conspicuo.

CHINA. K w e i c h o u : Gan chouen, *J. Esquirol*, no. 3893, 1912 (type = isotype of *Eurya Esquirolii*, nom. nud., in A. A.).

Superficially this species resembles somewhat *Litsea lancifolia* Hook. f., but the leaves of the latter are of finer texture, longer and not shining; the inflorescence consists of groups of stalked small umbels, while in *Litsea Esquirolii*, there is a single cluster of umbels to a peduncle.

There is a question of the technicality of making *Litsea Esquirolii* a new species. Lèveillé in *Flore du Kouy-Tchéou*, has mentioned the name only. Since the first description to appear is the one given above, it has been published as a new species.

***Litsea mollis*** Hemsley in *Jour. Linn. Soc. Bot.* **26**: 383 (1891). — Lèveillé, *Fl. Kouy-Tchéou*, 220 (1914). — Liou, *Laurac. Chine & Indoch.* 186 (1932).

CHINA. K w e i c h o u : Touan-po, Mou-kiang-to, *J. Cavalerie*, no. 2486, August 13, 1905; "grand arbre 7 ou 8 mètres, arbre purpurie, le fruit vert de condiment" (cited in *Fl. Kouy-Tchéou* under *L. mollis*).

Cavalerie no. 2486, which I have before me, has been correctly identified by Lèveillé. Liou recognizes *L. mollis*, but appends a note to the effect that in his opinion, *L. mollis* will eventually, when fruit is known, go into synonymy under *L. cubeba* Pers.

***Litsea* spec.**

*Lindera Esquirolii* Lèveillé in *Fedde, Rep. Spec. Nov.* **9**: 327 (1911); *Fl. Kouy-Tchéou* 219 (1914), as synonym of *Lindera praecox* Blume.

CHINA. K w e i c h o u : *J. Esquirol*, no. 738 (type of *Lindera Esquirolii*; photo. in A. A.).

Lèveillé described Esquirol no. 738 as a new species in *Fedde's Repertorium*. Later, in his *Flore du Kouy-Tchéou*, he placed it under *Lindera praecox* Bl., along with Bodinier no. 2114, Esquirol nos. 369 and 911. Close examination of all four numbers, however, reveals the fact that they do not belong to the genus *Lindera* but to *Litsea* and are very close to *L. sericea* Hook. f. They doubtless represent a new species, but without leaf specimens and fruit, its description would be inadequate.

**Benzoin commune** (Hemsl.) Rehder, *Jour. Arnold Arb.* **1**: 144

(1919); l.c. **10**: 194 (1929). — Handel-Mazzetti, *Symb. Sin.* **7**: 258 (1931).

*Lindera communis* Hemsley in *Jour. Linn. Soc. Bot.* **26**: 387 (1891). — Liou, *Laurac. Chine & Indoch.* 130 (1932).

*Lindera Bodinieri* Léveillé in *Fedde, Rep. Spec. Nov.* **10**: 371 (1912).

CHINA. K w e i c h o u : Add: Pin-fa, *J. Cavalerie*, no. 798, June 25, 1902 (syntype of *L. Bodinieri*; photo. in A. A.).

There is a great variation in the amount of pubescence in this species. The only two numbers I have seen of those quoted by Hemsley as syntypes of *Lindera communis*, Henry 1296 and 3413, are sparingly and very finely pubescent on the lower leaf surface and twigs. The majority of the specimens examined from Hupeh are similar to these or more pubescent. For the most part, those collected in Yunnan have much the same characteristics. In some cases, however, the pubescence is confined only to the primary veins of the leaf. Bodinier no. 105, type of *Lindera yunnanensis* Lévl. and referred to *B. commune* by Rehder, is typical of the species. Esquirol no. 372 (type of *Litsea Esquirolii* Lévl.) and Bodinier no. 2179 (type of *Lindera Bodinieri*) placed under *B. commune* by Rehder, are both very densely pubescent.

Those numbers from the eastern provinces of China represent the other extreme, in being almost entirely glabrous on the under surface of the leaves and the twigs.

**Benzoin glaucum** Siebold & Zuccarini. — Rehder in *Jour. Arnold Arb.* **10**: 194 (1929).

*Lindera glauca* Blume, *Mus. Bot. Lugd.-Bat.* **1**: 325 (1850). — Léveillé, *Fl. Kouy-Tchéou*, 219 (1914).

CHINA. K w e i c h o u : Pin-fa, *J. Cavalerie*, no. 45, July 15, 1902; without definite locality, *J. Cavalerie*, no. 2378, "fl. verte jaune," March 26, "fr." June 15, 1905.

Cavalerie nos. 45 and 2378 which Léveillé cites are typical *B. glaucum*, but no. 1961 is an *Ilex*, apparently referable to *I. cinerea* Champ.

**Benzoin touyunense** (Lévl.) Rehder in *Jour. Arnold Arb.* **10**: 194 (1929); **11**: 158 (1930). — Handel-Mazzetti, *Symb. Sin.* **7**: 258 (1931).

*Litsea touyunensis* Léveillé in *Fedde, Rep. Spec. Nov.* **11**: 63 (1912); *Fl. Kouy-Tchéou*, 220 (1914).

**Benzoin touyunense f. megaphyllum** (Hemsl.) Rehder in *Jour. Arnold Arb.* **11**: 158 (1930).

*Lindera megaphylla* Hemsley in *Jour. Linn. Soc. Bot.* **26**: 389 (1891). — Léveillé, *Fl. Kouy-Tchéou*, 219 (1914), pro parte. — Liou, *Laurac. Chine & Indoch.* 124 (1932).



CHINA. K w e i c h o u : Add: Majo, Long-by, *J. Cavalerie*, no. 3053 (in part), July 1908, "assez grand arbre" (cited under *Lindera megaphylla* Brandis).

Léveillé has placed under *Lindera megaphylla* Brandis, Cavalerie no. 3053, which consists of two sheets at least. Of the two sheets which I have seen, one is *Benzoin touyunense* f. *megaphylla* (Hemsl.) Rehd., and the other is *Actinodaphne reticulata* Meissn. Cavalerie, no. 3585, cited along with no. 3053 is *Tarenna incerta* Koord. & Val. (see Jour. Arnold Arb. 16: 321).

The author citation "Brandis" for *Lindera megaphylla* is apparently a mistake. In any case, it is Hemsley's species that Léveillé had in mind, which is a synonym of *Benzoin touyunense* f. *megaphylla*. The leaves are glabrous on the lower surface, which is the character separating the form from the species proper.

#### CAPPARIDACEAE<sup>1</sup>

**Capparis cantoniensis** Loureiro, Fl. Cochin. 331 (1790). — Merrill in Trans. Am. Philos. Soc. n. ser. 24: 173 (Comm. Loureiro Fl. Cochin.) (1935).

*Cudrania Bodinieri* Léveillé in Fedde, Rep. Spec. Nov. 13: 265 (1914). — **Synon. nov.**

*Vanieria Bodinieri* (Lévl.) Chun in Jour. Arnold Arb. 8: 21 (1927).

CHINA. H o n g k o n g : torrent de la Baie du Télégraphe près Bethanie, *E. Bodinier*, no. 1413, Jan. 14, 1896, "grande liane épineuse" (holotype of *Cudrania Bodinieri*; photo. in A. A.).

The specimen cited above differs from typical *C. cantoniensis* in the leaves narrowed at the apex into an obtuse point, not acuminate; such leaves occur occasionally, but rarely, in other specimens, as in Y. Tsiang no. 1738 from the Lo-fou-shan, Kwangtung.

**Capparis viminea** Hooker f. & Thomson ex Hooker f., Fl. Brit. Ind. 1: 179 (1875).

*Ficus Marchandii* Léveillé in Fedde, Rep. Spec. Nov. 12: 533 (1913); Fl. Kouy-Tchéou, 432 (1915). — **Synon. nov.**

CHINA. K w e i c h o u : without locality, *J. Esquirol* (holotype of *Ficus Marchandii*; photo. in A. A.).

There are in this herbarium Chinese specimens referable to *C. viminea* from Hainan (McClure 9520, 20110) and from Yunnan (Henry 9124 and Schneider 3237).

This and the preceding species were identified by Dr. E. D. Merrill. *Ficus Marchandii* had been already recognized as representing appar-

<sup>1</sup>See Vol. 10: 195.

ently a species of *Capparis* by Dr. Handel-Mazzetti in 1929 (Symb. Sin. 7: 100).

SAXIFRAGACEAE<sup>1</sup>

**Deutzia Esquirolii** (Lévl.) Rehder in Jour. Arnold Arb. 14: 202 (1933).

*Deutzia lancifolia* Rehder in Sargent, Pl. Wilson. 1: 147 (1912); in Jour. Arnold Arb. 12: 276 (1931).

When referring in 1931 (l.c.) *Styrax Esquirolii* Lévl. and *Deutzia Chaffanjoni* Lévl. as synonyms to my *D. lancifolia*, I unfortunately overlooked that *Styrax Esquirolii* had priority over *D. lancifolia*. This mistake was corrected in 1933.

HAMAMELIDACEAE<sup>2</sup>

**Bucklandia populnea** R. Brown ex Wallich, Num. List. no. 7414 (1832), nom. nud. — R. Brown ex Griffith in As. Research. 19: 94 pl. 13, 14 (1836).

*Aeschynanthus Esquirolii* Léveillé in Fedde, Rep. Spec. Nov. 11: 495 (1913); Fl. Kouy-Tchéou, 180 (1914). — **Synon. nov.**

CHINA. K w e i c h o u : Tchei-chou, *J. Esquirol*, no. 732, "nom chinois Ma-ty-chou" (holotype of *Aeschynanthus Esquirolii*; photo. in A. A.).

According to a note on the type specimen it was referred to *Bucklandia* by Wm. G. Craib.

**Distylium chinense** (Franch.) Diels in Bot. Jahrb. 29: 380 (1900). — Handel-Mazzetti, Symb. Sin. 7: 53, in nota (1929). — Rehder in Jour. Arnold Arb. 12: 280 (1931).

*Myrica Seguini* Léveillé in Fedde, Rep. Spec. Nov. 12: 537 (1913).

*Myrica rapaneoidea* Léveillé in Bull. Acad. Intern. Géog. Bot. 24: 146 (1914); Fl. Kouy-Tchéou, 281 (1915). — **Synon. nov.**

CHINA. K w e i c h o u : without locality, *J. Cavalerie*, no. 3929, "arbrisseau" (holotype of *Myrica rapaneoidea* and of *M. Seguini*; photo. in A. A.).

On the label of Cavalerie's no. 3929 only the name *Myrica rapaneoidea* appears.

## EUCOMMIACEAE

**Eucommia ulmoides** Oliver in Hooker's Ic. Pl. 20: t.1950 (1890). — Léveillé, Fl. Kouy-Tchéou, 268 (1915) "*ulmoidea*."

*Eucommia ulmoidea* Oliv. var. *yunnanensis* Léveillé, Cat. Pl. Yun-Nan, 174 (1916), nom. nud.

<sup>1</sup>See Vol. 12: 275.

<sup>2</sup>See Vol. 12: 280.

CHINA. K w e i c h o u : Ko-tchiang-kéou, *J. Esquirol*, no. 637, Aug. 1905 (cited in Fl. Kouy-Tchéou; fragments in A. A.). Y u n n a n : forêts de Long-ky, alt. 700 m., *E. E. Maire*, Aug. 1911-13 fragments in A. A.).

*Eucommia ulmoidea* var. *yunnanensis* was published without description and locality, but the name refers doubtless to the specimen cited above which is the only one from Yunnan in the Lévillé herbarium. I can see no difference from the typical form. The specimen may be from a cultivated tree, for it is according to Hu (cf. *Icon. Pl. Sin.* 1: 26. 1927) an eastern tree, and is found in Hupeh and Szechuan only under cultivation. There is no specimen from Yunnan in the Arnold Arboretum herbarium.

#### ROSACEAE<sup>1</sup>

**Neillia sinensis** Oliver in Hooker's *Icon.* 16: t.1540 (1886).

*Neillia glandulocalyx* Lévillé, Fl. Kouy-Tchéou, 348 (1915).

*Neillia sinensis* Oliv. f. *glanduligera* (Hemsl.) Rehder in *Jour. Arnold Arb.* 13: 299 (1932).

*Neillia sinensis* Oliv. var. *glanduligera* Hemsl. in herb. ex Rehder l.c., pro synonym., praeced.

In examining the numerous specimens of *Neillia* in this herbarium, I noticed that all flowering specimens had the calyx without glands, while in all fruiting specimens the calyx had gland-tipped setose hairs. On our cultivated plants, I was able to observe the gradual development of the glandular bristles after flowering which shows conclusively that "*glanduligera*" is not a distinct form or variety, but is descriptive of the calyx at the fruiting stage.

**Spiraea Martini** Lév. — Rehder in *Jour. Arnold Arb.* 13: 300 (1932). — Handel-Mazzetti, *Symb. Sin.* 7: 452 (1933).

Handel-Mazzetti collected this species also in southwestern Szechuan.

**Eriobotrya Cavaleriei** (Lév.) Rehder in *Jour. Arnold Arb.* 13: 307 (1932). — Handel-Mazzetti, *Symb. Sin.* 7: 477 (1933).

Handel-Mazzetti gives (l.c.) a complete description of the species and states that the description of the fruit is based on Wilson, *Arnold Arb. Exp.* no. 2993, distributed as *Pyrus Delavayi*, but in this herbarium Wilson no. 2993 is the type of *Sorbus aronioides* Rehd., and Wilson's specimen named by him *P. Delavayi* is no. 2998 and represents *Docynia rufifolia* (Lév.) Rehd., not *Docynia Delavayi* (Fr.) Schneid.

**Photinia Esquirolii** (Lév.), comb. nov.

*Cotoneaster Esquirolii* Lévillé, Fl. Kouy-Tchéou, 346 (1915). — Rehder in *Jour. Arnold Arb.* 13: 302, in nota (1932).

<sup>1</sup>See Vol. 13: 299.

CHINA. K w e i c h o u : bois de Ban-gnien, *J. Esquirol*, no. 2624, March 25, 1911, "couleur rosée" (holotype; photo. in A. A.).

Frutex ramulis gracilibus atrofuscis sparse et inconspicue lenticellatis initio accumbenti-pilosis mox glabris. Folia brevissime petiolata petiolo 1–2 mm. longo accumbenti-piloso vel fere glabro, lamina oblonga vel oblongo-lanceolata, 4–6.5 cm. longa et 1.1–2.5 cm. lata, medio latissima, acuminata, basi rotundata vel late cuneata, minute et inconspicue serrulata denticulis mucronulatis accumbentibus vel partim fere integra, costâ mediâ utrinque pilosâ vel fere glabrâ exceptâ glabra vel fere glabra, nervis utrinsecus 10–12 tenuibus subtus leviter elevatis. Inflorescentia circiter 5-flora, 12 mm. alta, pedicellis 5–7 mm. longis, laxe accumbenti-pilosis non verrucosis; bracteolae minutae, lineari-lanceolatae, fugaces; alabastra tantum adsunt; calyx glaber, lobis rotundatis in mucronem subito productis intus villosis; petala orbicularia; stamina circiter 20, antheris oblongis; styli ad apicem connati, stigmatate capitato; ovarium apice villosum, 4-loculare.

As Léveillé's description is very brief, I have drawn up a new description as far as possible with the meagre type specimen which bears only a few flower-buds. Léveillé describes the fruit as "parvi, 5 × 5, nigricantes" but there are no fruits with the specimen and it seems unlikely that there were any, since the specimen was collected March 25.

The species seems to be most closely related to *Photinia brevipetiolata* Cardot of which I have seen no specimen. According to the description, it chiefly differs from Cardot's species in the indistinctly serrulate margin and the mostly rounded base of the leaves, in the larger inflorescence with longer pedicels and in the glabrous calyx. Cardot's species also comes from Kweichou, having been collected between Pin-fa and Kouyang by Cavalerie and Fortunat (no. 2607). If Léveillé's species should prove to be identical with *Ph. brevipetiolata*, the latter name would become a synonym of the new combination proposed above, since Léveillé's specific epithet has priority.

***Photinia Blinii* (Lévl.), comb. nov.**

*Cotoneaster Blinii* Léveillé, Cat. Pl. Yun-Nan, 229 (1917). — Rehder in Jour. Arnold Arb. 13: 302, in nota (1932).

CHINA. K w e i c h o u : Goui-reou, lit même du fleuve, alt. 600 m., *J. Esquirol*, no. 3700, Oct. 2, 1912 (holotype; photo. in A. A.).

Frutex ramulis purpureo-brunneis glabris minute sparseque lenticellatis novellis lanuginoso-tomentosis. Folia ut videtur decidua, breviter vel brevissime petiolata, lanceolata, majora circiter 3 cm. longa et 8 mm. lata, in apicem obtusiusculum minute mucronulatum attenuata, basi attenuata, integra vel indistincte crenulate, supra tomento lanugi-

noso mox evanescente, infra denso flavescente obtecta, costa supra leviter impressa subtus leviter elevata, nervis indistinctis. Flores non visi. Corymbus fructifer terminalis, 18 mm. altus, compactus, ramulis et pedicellis brevibus glabris purpureo-brunneis conspicue lenticellatis, fructibus paucis vel pluribus (1-5) ovoideis 6 mm. longis, calycis lobis triangularibus incurvis vix 1 mm. longis coronatis; ovarium triente superiore liberum, 3-loculare, semine unico evoluto ovoideo brunneo.

This plant apparently belongs to *Photinia* § *Pourthiaea*, as already indicated in a note on the type-sheet by Mr. W. E. Evans, but differs from all other species in the entire leaves and the one-seeded fruit; at least, in the two fruits I examined only one seed of the 3-celled ovary was developed which filled the whole ovary, the thin walls of the other two locules being pressed against the outer wall. The ovary is free from the calyx in the upper third, and there are remnants of 3 styles and of about 20 stamens. As the original description is very incomplete, a fuller description of the type specimen has been given above. As stated by the collector, the shrub grows in the river bed, and the shrubs are apparently at times wholly immersed in the water, since two of the branchlets are entirely enveloped by débris of vegetable matter such as is often carried by floods.

The development of leaves in the specimen seems abnormal, for the specimen having been collected in October with mature fruits, has no mature leaves, which were apparently destroyed and carried away by a flood. The leaves present are all young leaves, partly still unfolding which probably developed after the flood.

***Rosa multiflora* Thbg. var. *adenophora* Franchet & Savatier.** — Rehder in Jour. Arnold Arb. **13**: 310 (1932).

*Rosa Nakaiana* Léveillé in Fedde, Rep. Spec. Nov. **10**: 432 (1912).

*Rosa polyantha* S. & Z. var. *adenochoeta* Nakai in Tokyo Bot. Mag. **40**: 569 (1926).

Boulenger (in Bull. Jard. Bot. Bruxelles, **9**: 267, 1933) refers *Rosa Nakaiana* to *R. Luciae* as *R. Luciae* var. *Nakaiana* (Lévl.), but according to the type specimen of which I have a photograph and fragments before me, the styles of *R. Nakaiana* are glabrous as described by Léveillé, which removes it at once from *R. Luciae*. Boulenger does not cite the type of *R. Nakaiana* under his variety and may not have seen it.

***Rosa multiflora* var. *mokanensis* (Lévl.), comb. nov.**

*Rosa Mokanensis* Léveillé in Fedde, Rep. Spec. Nov. **7**: 340 (1909). — Willmott, Gen. Rosa, **2**: 511, t. (1914).

*Rosa multiflora* var. *quelpaertensis* Rehder & Wilson in Sargent, Pl. Wilson. **2**: 335 (1915), quoad synonym. *R. mokanensis*.

*Rosa calva* Bouleng. var. *mokanensis* Boulenger in Bull. Jard. Bot. Bruxelles, 9: 270 (1933).

KOREA. *Quelpaert*: Moka, *E. Taquet*, no. 778 (770 ?), June 3, 1908 (holotype of *R. Mokanensis*, in part; photo. and isotype [770] in A. A.).

Boulenger separates (in Bull. Jard. Bot. Bruxelles, 9: 268–275. 1933) *Rosa multiflora* var. *calva* Franch. & Sav. from *R. multiflora* as a distinct species based chiefly on the glabrous pedicels of the former and refers to *R. calva* as varieties also *R. multiflora* var. *cathayensis* Rehd. & Wils. and var. *formosana* Cardot. I do not consider the character of pubescent or glabrous pedicels important enough for specific differentiation, but it may be used as a varietal character to distinguish var. *mokanensis* with glabrous pedicels from var. *quelpaertensis* with hairy pedicels.

The citation of the type of this variety represents two complications; the first is the fact that Taquet's number contains two specimens belonging to different species. However, the words "pedunculis glandulosis" of Léveillé's meagre description apply only to the left hand specimen, and the drawing published by Miss Willmott is clearly based on an identical specimen, probably sent to her by Léveillé. The right hand specimen on the sheet has perfectly smooth pedicels and a pubescent style and belongs to *R. Wichuraiana* Crép. The second complication is the question of the correct number which is cited by Léveillé as 778; this seems to be a mistake for on the label of the isotype in this herbarium, the number is clearly 770 and on Léveillé's type sheet, the last figure of the number is not at all like the "8" in 1908 of the same label. The mistake was already indicated by citing in Sargent, Pl. Wilson. 2: 335 the number as 770 followed by "778 (ex Léveillé)."

In regard to the name *R. calva*, it may be pointed out that, as this species includes *R. Mokanensis*, the latter name being the oldest specific epithet should have been used for the group.

***Rosa multiflora* var. *quelpaertensis* (Lévl.) Rehder & Wilson** in Sargent, Pl. Wilson. 2: 335 (1915), and Rehder in Jour. Arnold Arb. 13: 310 (1932), excl. synonym. *R. mokanensis*. — Boulenger in Bull. Jard. Bot. Bruxelles, 9: 274 (1933)

*Rosa polyantha* S. & Z. var. *quelpaertensis* Nakai in Tokyo Bot. Mag. 40: 569 (1926), excl. synonym. *R. Mokanensis*.

As stated under the preceding variety, it seems best to treat *R. mokanensis* Lévl. as a distinct variety of *R. multiflora*.

***Rosa Wichuraiana* Crépin.** — Rehder in Jour. Arnold Arb. 13: 311 (1932).

*Rosa Luciae* Fr. & Sav. var. *Wichuraiana* Koidzumi in Jour. Coll. Sci. Univ. Tokyo, **34**: 234 (1913). — Boulenger in Bull. Jard. Bot. Bruxelles **9**: 264 (1933).

*Rosa Luciae* var. *Taquetiana* Boulenger, l.c. 267 (1933).

*Rosa mookanensis* Lévl. p.p. is probably best omitted from the synonymy, since this species seems to be based exclusively on the branch referable to *R. multiflora* (see above under *R. multiflora* var. *mookanensis*). In the enumeration of specimens Taquet no. 102 should be called holotype of *R. Taquetii* rather than syntype, since the other branch on the sheet did not enter in the description. Taquet no. 5586 is the holotype of *R. Luciae* var. *Taquetiana* Boulenger and seems to be a small-leaved form of *R. Wichuraiana*.

Koidzumi (l.c.), Cardot (in Bull. Mus. Paris, **23**: 116, 1917) and Boulenger (l.c.) consider *R. Luciae* and *R. Wichuraiana* conspecific and distinguish the latter as a variety; the two species are undoubtedly closely related, but for the present I prefer to keep them distinct.

**Rosa Gentiliana** Léveillé & Vaniot. — Rehder & Wilson in Sargent, Pl. Wilson. **2**: 312 (1915), excl. synonym. et specimenibus cit. — Rehder in Jour. Arnold Arb. **13**: 313 (1932). — Boulenger in Bull. Jard. Bot. Bruxelles, **9**: 260 (1933).

As Boulenger points out this rose is a doubtful species and belongs probably into the affinity of *R. Maximowicziana* Reg. and may be the same as *R. tsusimensis* Nakai which is unknown to me. The type specimen of *R. Gentiliana* seems to have been lost, but there exist two plates apparently drawn from the same specimen which have to serve as the type. I have seen so far no specimen which agrees with these drawings and all the material enumerated in 1915 by the writer and E. H. Wilson belong to another species described in 1933 by Boulenger as *R. Henryi*<sup>1</sup> which is easily distinguished from the true *R. Gentiliana* by the narrow entire stipules and the pubescent styles.

**Rosa Rubus** Léveillé & Vaniot. — Cardot in Bull. Mus. Paris, **23**: 116 (1917). — Rolfe in Gard. Chron. ser. 3, **68**: 59 (1920). — Täckholm in Act. Hort. Berg. **7**: 104 (1922). — Rehder in Jour. Arnold Arb. **13**: 312 (1932). — Boulenger in Bull. Jard. Bot. Bruxelles, **9**: 234 (1933). — Rehder, Man. Cult. Trees & Shrubs, 431 (1927).

Cardot considers *R. Rubus* to be only a variety of *R. moschata*, but does not make a combination nor does he reduce it to synonymy.

<sup>1</sup> **Rosa Henryi** Boulenger in Bull. Jard. Bot. Bruxelles, **9**: 231 (1933).

*Rosa Gentiliana* "Léveillé & Vaniot" sensu Rehder & Wilson in Sargent, Pl. Wilson. **2**: 312 (1915), quoad synonym. cit. et specimenibus citata. — Rehder, Man. Cult. Trees Shrubs, 432 (1927). — Handel-Mazzetti, Symb. Sin. **7**: 525 (1933). — Non Léveillé & Vaniot.

Widely distributed through eastern, central and western China.

**Rosa adenoclada** Léveillé. — Rehder in Jour. Arnold Arb. **13**: 314 (1932).

This rose is merely mentioned by Boulenger under *R. Henryi* (in Bull. Jard. Bot. Bruxelles, **9**: 232 (1933) as not belonging to the Synstylae; he ventures no opinion about its relationship.

**Rosa longicuspis** A. Bertoloni. — Rehder in Jour. Arnold Arb. **13**: 314 (1932).

*Rosa Willmottiana* Lévl. is considered a distinct species by Boulenger (in Bull. Jard. Bot. Bruxelles, **9**: 232 (1933). Though perhaps not sufficiently different to be regarded as a species, it may be distinguished as a variety, as I have already intimated in 1932 (l.c.).

**Rosa cymosa** Trattinnick, Ros. Monog. **1**: 27 (1823).

*Rosa microcarpa* Lindley. — Rehder in Jour. Arnold Arb. **13**: 314 (1932). — Non Retzius (1803), nec Besser (1811).

On the cover of *Rosa microcarpa* and *R. Chaffanjonii* in the Léveillé herbarium appears the name *Rosa Patrum* Lévl. This is apparently a manuscript name and I find it only in the two manuscript works by Léveillé: Rosetum universum (1917) and Catalogue illustré et alphabétique des plantes du Seu-Tchouan (1918); in the first publication it appears as "113. *R. Patrum* Lévl. nov. nom. (*microcarpa* Lindl. 1820, non Retz. 1803," in the second publication the name appears only with a reference to the Rosetum.

As *Rosa microcarpa* Lindl. is a later homonym, *Rosa cymosa* Tratt. has to take its place. Léveillé overlooked the existence of *R. cymosa* and proposed *R. Patrum* for the preoccupied name.

**Rosa Davidi** Crép. var. **elongata** Rehder & Wilson. — Rehder in Jour. Arnold Arb. **13**: 318 (1932).

*Rosa Davidi* var. *elongata* and *R. Parmentieri* Lévl. are cited by Boulenger (in Bull. Jard. Bot. Bruxelles, **13**: 252 (1935) as synonyms of *R. Davidi* Crép.

**Rosa sertata** Rolfe. — Rehder, l.c. (1932).

*Rosa sertata* Rolfe and *R. iochanensis* Lévl. are cited by Boulenger (op. cit. 193) as synonyms of *R. Webbiana* Wall.

**Rosa omeiensis** Rolfe. — Rehder, l.c. (1932).

*Rosa omeiensis* Rolfe, *R. Sorbus* Lévl. and *R. Mairei* Lévl. are cited by Boulenger (op. cit. 192) as synonyms of *R. sericea* Lindl.

**Rosa Mairei** Léveillé. — Rehder, op. cit. 319 (1932). — Handel-Mazzetti, Symb. Sin. **7**: 528 (1933).



Boulenger (op. cit. 192) considers *R. Mairei* a synonym of *R. sericea* Lindl.

**Prunus Wilsonii** (Diels ex Schneid.) Koehne var. **leiobotrys** Koehne in Sargent, Pl. Wilson. 1: 63 (1911). — Lévillé, Fl. Kouy-Tchéou, 352 (1915).

*Prunus Dunniana* Lévillé in Fedde, Rep. Spec. Nov. 10: 377 (1912).

CHINA. K w e i c h o u : Kai-tchéou, *Cavalerie*, no. 2985, June 1908, "grande arbre" (holotype of *P. Dunniana*; photo. in A. A.).

According to a note on the type specimen, this was determined by Koehne in 1913 as *P. Wilsonii* var. *leiobotrys* and subsequently enumerated by Lévillé under that name in his Flore du Kouy-Tchéou. All the other specimens from Kweichou I have seen, as Tsiang nos. 4441, 6654, 7064 and 8870, belong to typical *P. Wilsonii* which has the rachis of the inflorescence pubescent.

(*To be continued*)

HERBARIUM, ARNOLD ARBORETUM,  
HARVARD UNIVERSITY.